Attorney Docket No.: 9060-221 PATENT

In re: Robert W. Johnson, Jr. et al.
Serial No.: 10/790,604
Filed: March 1, 2004
For: POWER SUPPLY LOADING INDICATORS AND METHODS

Group Art Unit: 2836
Examiner: Robert L. Deberadinis
Confirmation No.: 9585

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APPELLANTS' BRIEF ON APPEAL UNDER 37 C.F.R. § 41.67

Sir:

This Appeal Brief is filed pursuant to the "Notice of Appeal to the Board of Patent Appeals and Interferences" mailed August 5, 2008.

Real Party In Interest

The real party in interest is assignee Eaton Corporation, a Ohio corporation having a principal place of business at 1111 Superior Avenue, Eaton Center, Cleveland, Ohio 44114.

Related Appeals and Interferences

Appellants are aware of no appeals or interferences that would be affected by the present appeal.

Status of Claims

Appellants appeal the final rejection of Claims 1-34 (as presented in the Amendment of January 24, 2008) as set forth in the Final Office Action mailed May 22, 2008 (hereinafter "Final Action"), which as of the filing date of this Brief remain under consideration. Claims 1-34 stand rejected and Claims 35-37 are canceled. Accordingly, the attached Appendix A presents the claims at issue as finally rejected in the Final Action.

Status of Amendments

The attached Appendix A presents the pending claims as presented and entered in the Amendment and Response filed January 24, 2008 and each of the pending claims corresponding status.

Summary of the Claimed Subject Matter

The present application includes independent Claims 1, 17, 26 and 33. Claim 1 is directed to apparatus including multiple segment loading indicators on a power supply. *See, e.g.*, Specification, p. 1, lines 22-23. The segment loading indicators are configured to be electrically coupled to respective load segment outputs of the power supply. *See, e.g.*, Specification, p. 1, lines 23-24. Each of the segment loading indicators is operative to provide an indication of a loading of the associated load segment output of the power supply. *See, e.g.*, Specification, p. 1, lines 24-26.

According to Claim 17, a UPS comprises a housing having first and second panels. *See, e.g.*, Specification, p. 2, lines 4-5. A power output is provided at the second panel of the housing. *See, e.g.*, Specification, p. 2, lines 5-6. The UPS includes uninterruptible power supply circuitry supported by the housing and operative to generate a voltage at the power output. *See, e.g.*, Specification, p. 2, lines 6-7. A user interface is positioned at the first panel of the housing and is operatively associated with the uninterruptible power supply circuitry. *See, e.g.*, Specification, p. 2, lines 7-9. The UPS includes a loading indicator coupled to the power output and operative to provide a visual indication at the second panel of the housing of a loading of the power output. *See, e.g.*, Specification, p. 2, lines 9-11.

According to Claim 26, a UPS includes multiple load segment outputs. *See, e.g.*, Specification, p. 2, lines 16-17. An uninterruptible power supply circuitry is operative to provide power at the load segment outputs. *See, e.g.*, Specification, p. 2, lines 17-18. Respective segment loading indicators are coupled to the respective load segment outputs and are operative to provide respective indications of loadings of the respective load segment outputs. *See, e.g.*, Specification, p. 2, lines 18-20.

According to Claim 33, methods of operating a UPS having a rear panel output and a front panel user interface include providing a visual loading indication for the output on the

rear panel. *See, e.g.*, Specification, p. 2, lines 4-11.

Grounds of Rejection to Be Reviewed on Appeal

1. Claims 1-11, 13, 14, 26-31 and 34 stand rejected under 35 U.S.C. § 102(a) as being anticipated by United States Patent No. 7,181,630 to Kadoi et al. ("Kadoi").

2. Claims 15-22, 24, 25 and 33 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kadoi.

2. Claims 12, 23 and 32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kadoi in view of United States Patent No. 6,320,585 to Engel et al. ("Engel").

Argument

I. Introduction

A. 35 U.S.C. §102

Under 35 U.S.C. § 102, "a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." MPEP § 2131 (quoting *Verdegaal Bros. v. Union Oil Co.*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987)). "Anticipation under 35 U.S.C. § 102 requires the disclosure in a single piece of prior art of each and every limitation of a claimed invention." *Apple Computer Inc. v. Articulate Sys. Inc.*, 57 U.S.P.Q.2d 1057, 1061 (Fed. Cir. 2000).

A finding of anticipation further requires that there must be no difference between the claimed invention and the disclosure of the cited reference as viewed by one of ordinary skill in the art. *See Scripps Clinic & Research Foundation v. Genentech Inc.*, 927 F.2d 1565, 1576, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991). In particular, the Court of Appeals for the Federal Circuit held that a finding of anticipation requires absolute identity for each and every element set forth in the claimed invention. *See Trintec Indus. Inc. y. Top-U.S.A. Corp.*, 63 U.S.P.Q.2d 1597 (Fed. Cir. 2002). Further, each of the elements must be arranged as in the claim under review. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d 1566, 1567, (Fed. Cir. 1990). Additionally, the cited prior art reference must be enabling, thereby placing the allegedly disclosed matter in the possession of the public. *In re Brown*, 329 F.2d 1006, 1011, 141

U.S.P.Q. 245, 249 (C.C.P.A. 1964). Thus, the prior art reference must adequately describe the claimed invention so that a person of ordinary skill in the art could make and use the invention.

Appellants respectfully submit that the pending claims are patentable over the cited references because the cited references fail to disclose or suggest the recitations of the pending claims.

B. 35 U.S.C. § 103(a)

To establish a *prima facie* case of obviousness, the prior art reference or references when combined must teach or suggest all the recitations of the claims, and there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. M.P.E.P. §2143. A patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. *KSR Int'l Co. v. Teleflex Inc.*, 550 U. S. 1, 15 (2007). A corollary principle is that, when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be unobvious. *Id.* at 12. If a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. *Id.* at 13. A Court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions. *Id.* at 13. When it is necessary for a Court to look at interrelated teachings of multiple patents, the Court must determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. *Id.* at 14.

Appellants respectfully submit that the pending claims are patentable over the cited references because the cited references, alone or in combination, fail to disclose or suggest the recitations of the pending claims.

II. The Rejections of Independent Claims 1, 17, 26 and 33

A. Claims 1 and 26

As stated above, independent Claims 1 and 26 stand rejected under 35 U.S.C. §102(a) as being anticipated by Kadoi. Claim 1 recites:

> An apparatus comprising:
> a plurality of segment loading indicators on a power supply and configured to be electrically coupled to respective load segment outputs of the power supply, each of the segment loading indicators operative to provide an indication of a loading of the associated load segment output of the power supply.

The Final Action cites Kadoi as allegedly disclosing:

> a plurality of segment loading indicators configured to be electrically coupled to respective load segment outputs of a power supply, each of the loading indicators operative to provide an indication of a loading of the associated load segment output (col. 23, lines 47-68). (*Emphasis added.*)

Final Action, p. 3. In contrast with an apparatus as recited in Claim 1, Kadoi appears to describe a system of UPS's 1 that may each represent a load segment, the indication of which may be displayed on computers 2, 3, 4, 5, or 10 running an application, such as a UPS group controller program 21. *See, e.g.*, Kadoi, FIG. 1. Regarding indication, Kadoi appears to describe that image data may be displayed on the computer that may be the UPS group controller. Kadoi, Figure 6, column 10, lines 58-59. The image data may be generated from operating state information "read from the group data base 27." Kadoi, column 16, lines 39-41. "[A]n indicator image file (an indicator image 1g shown in FIG. 6 is contained in the file)" is stored as a simple image file. Kadoi, column 16, lines 31-37. Thus, Kadoi does not disclose or suggest that the image file be used "on the power supply," to provide indication, recited in Claim 1.

In rejecting Claims 1 and 26, the Office Action appears to be referring to Figs. 17 and 19 of Kadoi, which show detailed data structures of the UPS group management information. Appellants respectfully note that a data structure that may include load segment management information is not "a plurality of segment loading indicators on a power supply and configured to be electrically coupled to respective load segment outputs of the power supply," as recited in Claim 1. By providing a plurality of segment loading indicators on a power supply, a user seeking to add loads or reconfigure existing loads can use the segment loading

indicator on the power supply to avoid adding a load to a load segment that may be fully or heavily loaded already. *See, e.g.*, Specification, pp. 3-4. Additionally, Appellants respectfully submit that management system of UPS's as described in Kadoi neither identifies nor addresses the problems that the recitations of Claim 1 address. Thus, Kadoi does not disclose or suggest "a plurality of load segment indicators on a power supply," as recited in Claim 1. For at least the same reasons, Kadoi does not disclose or suggest the similar recitations in independent Claim 26. Accordingly, Appellants respectfully submit that Claims 1 and 26 are patentable over Kadoi and request that the rejections thereof be reversed.

B. Claims 17 and 33

As stated above, independent Claims 17 and 33 stand rejected under 35 U.S.C. §103 as unpatentable over Kadoi. Claim 17 recites:

> A UPS comprising:
> a housing having first and second panels;
> a power output at the second panel of the housing;
> uninterruptible power supply circuitry supported by the housing and operative to generate a voltage at the power output;
> a user interface positioned at the first panel of the housing and operatively associated with the uninterruptible power supply circuitry; and
> a loading indicator coupled to the power output and operative to provide a visual indication at the second panel of the housing of a loading of the power output.

The Final Action states that Kadoi discloses:

> an uninterrupted power supply managing system is described for managing a plurality of small UPS devices, the small UPS devices are connected to power supply routes between wall sockets and load devices (abstract). The small devices obviously are contained in housings having panels with user interface means and operative to generate a voltage at the power output.
> **Kadoi et al. teaches panels, indicators** and panels, but is silent as to a second panel.
> It would have been obvious to merely interface, indicators and panels in an UPS to manage the UPS since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japiske, 86 USPQ 70. (*Emphasis added.*)

Final Action, p. 5.

As noted in the Amendment and Response, "a loading indicator coupled to the power output and operative to provide a visual indication at the second panel" (where the power output is positioned) may provide a user with segment loading information that is proximate the power output. In this manner, a user seeking to add loads or reconfigure existing loads can use the segment loading indicator on the power supply to avoid adding a load to a load segment that may be fully or heavily loaded already. Since Kadoi neither seeks to nor provides such advantages, any motivation to modify the teachings of Kadoi appear to be gained through hindsight analysis based on Appellants' Specification.

Moreover, In re Japiske, as cited in the Final Action, more precisely states that there is no invention in shifting a component to a different position when the operation of a claimed device is not modified thereby. *See In re Japiske*, 37 C.C.P.A. 1026, 181 F.2d 1019, 86 U.S.P.Q. 70, 73 (1950). Appellants respectfully submit that the modification of Kadoi as suggested by in the Final Action would modify the operation of the claimed device. For example, the Final Action even states that Kadoi:

> teaches an improvement over the small system wherein when a large number of small UPS devices are used dispersedly as described above , an administrator who manages the small UPS devices has to visit each of the locations where each of the small UPS devices in installed[,] and has to check each of the small devices one by one, in order to confirm the operating state and setting of each of the small UPS devices (col. 1, lines 57-63).

Final Action, page 3. Accordingly, per the above analysis in the Final Action, operations of Kadoi and those of a UPS as recited in Claim 17 are distinguishable. Appellants respectfully submit that since Kadoi neither seeks to nor provides advantages corresponding to a device under Claim 17, even if "components" of Kadoi were shifted, as suggested in the Final Action, they would not operate in accordance with a device of Claim 17.

In response to Appellants' arguments, the Final Action states that Kadoi teaches:

> an uninterruptible power supply managing system described for managing a plurality of small UPS devices, the small devices are connected to power supply routes between wall sockets and load devices. Figure 24 illustrates the UPS station showing the relationship of the UPS station electrical devices, 141 designated as the large UPS, 142 (main panel) and 143

> (sub-panel) designated as panel boards, 144, the wall sockets, 1 designated as the small UPS.

Final Action, p. 2. Even if the above interpretation of Kadoi were correct, such interpretation provides no basis for concluding that Kadoi teaches or suggests the recitations of Claim 17.

Additionally, the Final Action concedes that "an indicator file generated from data in a database is not a loading indicator that provides an indication at a panel of the UPS at which the power output is located." Final Action, p. 2. Citing Kadoi at column 1, lines 57-63, the Final Action states that Kadoi teaches an improvement over the small system:

> wherein when a large number of small UPS devices are used dispersedly as described above, an administrator who manages the small UPS devices has to visit each of the locations where each of the small UPS devices is installed, and has to check each of the small UPS devices one by one, in order to confirm the operating state and the setting of each of the small UPS devices.

Final Action, pp. 2-3. The Final Action further reasons that:

> the information the administrator collected was the information displayed on an indicator on the UPS device where the power output is positioned. The argument that the power output indicator is positioned on a second panel is considered to be merely an arrangement of parts. Kadoi et al. teaches visual loading indicator for a UPS device located external to the UPS device.

Final Action, p. 3. Appellants respectfully submit that the reasoning suggested in the Final Action is conclusory and assumes facts that are unsupported by the reference. The Final Action improperly reads the "operating state and setting of each of the small UPS devices" as described in Kadoi at column 1, line 60 as "the information displayed on an indicator on the UPS device where the power output is positioned." The cited portion of the reference provides no basis for the assumption that the information is displayed at all, much less "where the power output is positioned," as alleged in the Final Action. Further, the operating state and setting are not described in the cited portion of Kadoi to include "a loading indicator coupled to the power output and operative to provide a visual indication at the second panel of the housing of a loading of the power output," as recited in Claim 17. For at least these reasons, Appellants respectfully submit that Claim 17 is patentable over Kadoi and request that the rejection thereof be reversed.

Independent Claim 33 recites, in part, "providing a visual loading indication for the output on the rear panel." As discussed above regarding Claims 1 and 17, Kadoi does not disclose or suggest loading indicators on a UPS, much less loading indication "for the output on the rear panel" of a UPS, as recited in Claim 33. Accordingly, Appellants respectfully submit that, for at least the same reasons as Claim 17, Claim 33 is patentable over Kadoi and request that the rejection thereof be reversed.

IV. Dependent Claims 2-16, 18-25, 27-32, and 34 are Patentable

Appellants submit that dependent Claims 2-16, 18-25, 27-32, and 34 are patentable at least by virtue of the patentability of various ones of independent Claims 1, 17, 26, and 33 from which they depend. Consistent with Appellants' discussion above regarding loading indication, various ones of the dependent claims include recitations that identify additional features that are not disclosed by Kadoi and/or Engel. In this regard, various ones of these dependent claims are separately patentable. For example, Claim 3 recites, in part, "at least one of the segment loading indicators is operative to provide an indication of a loading of the associated load segment output with respect to load rating of a circuit protection device that protects the associated load segment output." Appellants respectfully submit that Kadoi does disclose or suggest using an indicator that includes any reference to a load rating of a circuit protection device. For at least these reasons, Claim 3 is separately patentable over Kadoi. Appellants respectfully request that the rejection of dependent Claims 2-16, 18-25, 27-32, and 34 be reversed.

VIII. Conclusion

In summary, Appellants respectfully submit that Claims 1-11, 13-22, 24-31, 33 and 34 are patentable over Kadoi and Claims 12, 23 and 32 are patentable over Kadoi in view of Engel. Accordingly, Appellants respectfully request the reversal of the rejections of Claims 1-34 and the allowance thereof.

It is not believed that an extension of time and/or additional fee(s) are required, beyond those that may otherwise be provided for in documents accompanying this paper. In the event, however, that an extension of time is necessary to allow consideration of this paper, such an extension is hereby petitioned for under 37 C.F.R. §1.136(a). Any additional fees believed to be due in connection with this paper may be charged to Deposit Account No. 50-0220.

Respectfully submitted,

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CERTIFICATION OF TRANSMISSION

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Kirsten Carlos

APPENDIX A

1. (Previously presented) An apparatus comprising:

a plurality of segment loading indicators on a power supply and configured to be electrically coupled to respective load segment outputs of the power supply, each of the segment loading indicators operative to provide an indication of a loading of the associated load segment output of the power supply.

2. (Original) An apparatus according to Claim 1, wherein at least one of the segment loading indicators is operative to provide an indication of a loading of the associated load segment output with respect to load rating of the associated load segment output.

3. (Original) An apparatus according to Claim 1, wherein at least one of the segment loading indicators is operative to provide an indication of a loading of the associated load segment output with respect to a load rating of a circuit protection device that protects the associated load segment output.

4. (Original) An apparatus according to Claim 1, wherein at least one of the segment loading indicators is operative to provide an indication of the loading of the associated load segment output within a rated load range of the associated load segment output.

5. (Original) An apparatus according to Claim 1, wherein at least one of the segment loading indicators is operative to provide a visual indication of the loading of the associated load segment output.

6. (Original) An apparatus according to Claim 1, wherein the plurality of segment loading indicators are integrated in the power supply.

7. (Original) An apparatus according to Claim 4, wherein the plurality of

segment loading indicators comprises a plurality of segment loading indicators integrated in an uninterruptible power supply (UPS), and wherein respective ones of the segment loading indicators are operative to provide a visual indication of respective loadings of respective load segment outputs of the UPS.

8. (Original) An apparatus according to Claim 1, wherein the plurality of segment loading indicators are integrated in a power distribution device configured to be connected to the power supply and including the load segment outputs.

9. (Original) An apparatus according to Claim 8, wherein the power distribution device comprises one of a power distribution unit (PDU) or load panel.

10. (Original) An apparatus according to Claim 1, wherein at least one of the segment loading indicators is operative to provide respective visual indications for respective load levels.

11. (Original) An apparatus according to Claim 10, wherein the at least one of the segment loading indicators is further operative to provide a visual indication of an overload.

12. (Original) An apparatus according to Claim 10, wherein the at least one of the segment loading indicators is operative to provide respective color displays for respective load levels.

13. (Original) An apparatus according to Claim 10, wherein the at least one of the segment loading indicators is operative to provide a first visual indication for a first less than fully loaded condition and to provide a second visual indication for a second less than fully loaded condition.

14. (Original) An apparatus according to Claim 1, wherein at least one of the segment loading indicators comprises:

a current detector circuit operative to generate a current detector signal representative of current at the associated load segment output; and

a display circuit operative to generate a visual display responsive to the current detector signal.

15. (Original) An apparatus according to Claim 14, wherein the current detector circuit comprises a current transformer.

16. (Original) An apparatus according to Claim 14, wherein the current detector circuit comprises a current sense resistor.

17. (Original) A UPS comprising:

a housing having first and second panels;

a power output at the second panel of the housing;

uninterruptible power supply circuitry supported by the housing and operative to generate a voltage at the power output;

a user interface positioned at the first panel of the housing and operatively associated with the uninterruptible power supply circuitry; and

a loading indicator coupled to the power output and operative to provide a visual indication at the second panel of the housing of a loading of the power output.

18. (Original) A UPS according to Claim 17, wherein the loading indicator is operative to provide a visual indication of a loading of the outlet within a rated load range.

19. (Original) A UPS according to Claim 17, further comprising a protective device that protects the power outlet, and wherein the loading indicator is operative to provide a visual indication of a loading of the power output with respect to a load rating of the protective device.

20. (Original) A UPS according to Claim 17, wherein the power output comprises

a plurality of load segment outputs, and wherein the relative loading indicator comprise a plurality of segment loading indicators, respective ones of which are operative to provide respective visual indications of loadings of the respective load segment outputs with respect to load ratings of the load segment outputs.

21. (Original) A UPS according to Claim 20, wherein the user interface comprises a load indicator positioned at the front panel of the housing and operative to provide an indication of an aggregate loading of the UPS load segment outputs.

22. (Original) A UPS according to Claim 17, wherein the loading indicator is operative to provide respective visual indications for respective load levels.

23. (Original) A UPS according to Claim 22, wherein the loading indicator is operative to provide respective color displays for respective load levels.

24. (Original) A UPS according to Claim 22, wherein the loading indicator is operative to provide a first visual indication for a less than fully loaded condition and a second visual indication for an overloaded condition.

25. (Original) A UPS according to Claim 17, wherein the housing comprises a rack-mountable housing.

26. (Original) A UPS comprising:

a plurality of load segment outputs;

uninterruptible power supply circuitry operative to provide power at the load segment outputs; and

respective segment loading indicators coupled to the respective load segment outputs and operative to provide respective indications of loadings of the respective load segment outputs.

27. (Original) A UPS according to Claim 26, wherein the segment loading indicators are operative to provide respective indications of respective loadings of the respective load segments with respect to respective load ratings of the load segment outputs.

28. (Original) A UPS according to Claim 27, wherein the segment loading indicators are operative to provide respective indications of respective loadings of the respective load segment outputs with respect to respective load ratings of respective circuit protection devices that protect the respective load segment outputs.

29. (Original) A UPS according to Claim 26, wherein the segment loading indicators are operative to provide respective indications of respective loadings of the respective load segment outputs within respective rated load ranges of the respective load segment outputs.

30. (Original) A UPS according to Claim 26, wherein the segment loading indicators are operative to provide respective visual indications of respective loadings of the respective load segment outputs.

31. (Original) A UPS according to Claim 26, wherein the segment loading indicators are operative to provide respective visual indications for respective load levels.

32. (Original) A UPS according to Claim 31, wherein the segment loading indicator is operative to provide respective color displays for respective load levels.

33. (Original) A method of operating a UPS having a rear panel output and a front panel user interface, the method comprising:

providing a visual loading indication for the output on the rear panel.

34. (Original) A method according to Claim 33, wherein the UPS has a plurality of load segment outputs, and wherein providing a loading indication comprises providing

respective loading indications for the respective load segment outputs.

35-37. (Canceled)

APPENDIX B – EVIDENCE APPENDIX

(NONE)

APPENDIX C – RELATED PROCEEDINGS

(NONE)